

## CLAIMS

1. A rotary motion powered light emitting diodes comprising:

- 5           a) a permanent magnet generator located within a vehicle wheel for producing electric power,
- b) revolving means for rotating the permanent magnet generator to supply alternating current electrical power,
- c) an ac/dc bridge rectifier in electrical communication with the generator output
- 10       that changes the alternating current produced by the permanent magnet generator to direct current, and
- d) a plurality of light emitting diodes disposed within a vehicle wheel member and powered by said direct current to produce an unusual and unique visual effect when the wheel is rotating.

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2. The rotary motion powered light emitting diodes as recited in claim 1 wherein said permanent magnet generator further comprises:

- a) a rotating portion comprising:
- (1) a base including means for attaching the base to a vehicle wheel center,
- 20       said base further having an inner surface and an outer surface,
- (2) a case surrounding the outer surface of the base,
- (3) a pair of axle bearings pressed into the base at spaced intervals,
- (4) an axle cover positioned on the inner surface over the axle bearings,
- (5) a plurality of armature laminations that are wound with armature coil
- 25       windings and intimately engaging the base, and
- b) a stationary portion comprising:
- (1) an axle having a snap ring on one end pressed into the bearing races,
- (2) a tightening ring intimately gripping the axle on an end opposite the snap ring, retaining the axle in-place between the bearings,

(3) a magnet ring frame interfacing with the tightening ring in a secure manner,  
and

(4) a magnet ring attached to the magnet ring frame, positioned over the armature laminations, having an air gap therebetween, wherein the magnet ring is magnetized with a plurality of opposed polarity poles that are placed at equal spaced intervals, said permanent magnet generator producing alternating current power when the rotating portion and stationary portion are in motion relative to each other.

3. The rotary motion powered light emitting diodes as recited in claim 2 wherein said permanent magnet generator further comprising a metallic construction material for said axle bearings, magnet ring and armature including coil windings, and thermoplastic for the remainder of the generator.

4. The rotary motion powered light emitting diodes as recited in claim 2 further comprising a counter weight affixed to said magnet ring frame on the generator's stationary side, thereby obtaining a differential rotation of the permanent magnet generator when a vehicle is turning a rotating portion of the generator.

5. The rotary motion powered light emitting diodes as recited in claim 1 further comprising a counter weight affixed to the generator's stationary side, thereby obtaining a differential rotation of the permanent magnet generator when a vehicle is turning a rotating portion of the generator.

6. The rotary motion powered light emitting diodes as recited in claim 1 wherein said revolving means for rotating the permanent magnet generator to supply alternating current electrical power further comprises a vehicle wheel.

7. The rotary motion powered light emitting diodes as recited in claim 1 wherein said wheel member is selected from the group consisting of a spinner, a knock off, center cap, a hub cap, a wheel cover, a wheel spoke and a spinner blade.

5 8. The rotary motion powered light emitting diodes as recited in claim 1 wherein said ac/dc bridge rectifier further comprises a wheatstone bridge.

9. The rotary motion powered light emitting diodes as recited in claim 1 further comprising a voltage regulator in electrical communication with the ac/dc bridge rectifier  
10 output.

10. The rotary motion powered light emitting diodes as recited in claim 1 further comprising a current dropping resistor in electrical communication with the ac/dc bridge rectifier output.

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11. The rotary motion powered light emitting diodes as recited in claim 1 wherein said plurality of light emitting diodes are disposed within a transparent cap that is attached to a vehicle wheel.

20 12. The rotary motion powered light emitting diodes as recited in claim 1 wherein said plurality of light emitting diodes are disposed within a translucent cap attached to a vehicle wheel.

25 13. The rotary motion powered light emitting diodes as recited in claim 12 wherein said transparent cap further comprises a reflective coating on a faceted inner surface, with the light emitting diodes disposed in a geometrical array around the reflective coating.

14. The rotary motion powered light emitting diodes as recited in claim 1 wherein said plurality of light emitting diodes are disposed within a transparent cap, said cap having an image molded therein, with the cap attached to a vehicle wheel.
- 5 15. The rotary motion powered light emitting diodes as recited in claim 1 wherein said plurality of light emitting diodes are disposed within an assembly plate that is attached to a vehicle wheel with a cap engaging the plate.
- 10 16. The rotary motion powered light emitting diodes as recited in claim 1 wherein said plurality of light emitting diodes are disposed onto a plurality of spokes on a wire spoke wheel.
- 15 17. The rotary motion powered light emitting diodes as recited in claim 1 wherein said plurality of light emitting diodes are disposed within integral bars projecting radially from a wheel center portion of an alloy wheel.
18. The rotary motion powered light emitting diodes as recited in claim 1 wherein said plurality of light emitting diodes are disposed within a wheel cover.
- 20 19. The rotary motion powered light emitting diodes as recited in claim 1 wherein said plurality of light emitting diodes are disposed within a spinning blade of a wheel spinner cover.
- 25 20. A rotary motion powered light emitting diodes comprising:  
a) a permanent magnet generator that is located within a vehicle wheel for producing electric power, and has a stationary side and a rotating side with a counter weight affixed to the generator's stationary side, thereby obtaining a differential rotation of the permanent magnet generator when a vehicle is turning the rotating portion of the generator,

b) a rectifier in electrical communication with the generator output, thus altering the power produced by the generator to direct current, and

c) a plurality of light emitting diodes disposed within a vehicle wheel and powered by said direct current to produce an unusual and unique visual effect when the  
5 vehicle is moving.

21. A rotary motion powered light emitting diodes comprising:

a) a permanent magnet generator for producing electric power having a counter weight affixed to a generator's stationary side, thereby obtaining a differential rotation of  
10 the permanent magnet generator when turning a rotating portion of the generator,

b) means for producing direct current in electrical communication with the generator output altering the power produced by the generator, and

c) a plurality of light emitting diodes powered by said direct current to produce a unique visual effect when rotated.